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Geographic Information Enterprise Architecture Initiative Phase II GIT Portal Requirements & Proposed Logical Design

-- Documenter Team Draft --

Version 1.0

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1. Document History

Date	Version	Editor	Change
April 3, 2006	0.1	Jeff Holm	Straw Draft
May 1, 2006	0.2	Jeff Holm	April Revisions
May 11, 2006	0.3	Jeff Holm	Reformat with updated diagrams
May 12, 2006	0.4 - 0.5	Jeff Holm	Incorporate Harvest
May 18, 2006	0.6	John Tooley	Update Maintain Portal Use Case
			and Scenarios
May 22, 2006	0.7	Jeff Holm	5/2 updates
May 31, 2006	0.8	JMH/Group	5/27 edits
June 26, 2006	0.9 – 1.0	JMH/Group	Group final draft edits

2. Document Context

5 This document currently has **Documenter Team DRAFT** status. This status signifies

6 that the document is a work-in-progress, and is under development by an initiative

7 Documenter Team. As such neither the Enterprise Architecture Program, the

Department of Information Services, the ISB Enterprise Architecture Committee, nor the

Information Services Board has recommended or adopted any of the content within this

10 document.

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For more information about the Enterprise Architecture Program or the ISB Enterprise

Architecture Committee and its initiative, please visit the EA Committee website at:

14 http://isb.wa.gov/committees/enterprise/index.aspx.

3. Introduction and Purpose

This document captures the GIT Portal design requirements and proposed logical design.

On January 12, 2006 the Information Services Board (ISB) approved the Geographic Information Technology EA Conceptual Architecture and authorized the development of Phase II. Phase II is focused on design of the GIT Portal Solution Set as described in the approved Conceptual Architecture.

The Enterprise Portal and Clearinghouse is an application environment that provides a logically centralized web-based point of discovery and access to fundamental spatial data and applications. The Portal provides a single point for accessing and retrieving distributed significant spatial data and applications. (Conceptual Architecture Solution Set Description available at: http://wagic.wa.gov/gitea)

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Portal Guiding Principles: The following principles will be considered during portal design and operations. The GIT Portal will:

- Be able to discover and invoke services within a distributed network of geospatial services.
- Be a gateway to other services rather than an aggregation in a single location of all data or services. Some services and data may be resident on portal.
- Be an assembly of interoperable components that have open interfaces.
- Make use of the NSDI Clearinghouse network as a catalog of dataset-level metadata.
- Provide a thin-client human consumer interface with an integrated map viewer that is usable by standard web browsers.
- Provide a limited set of core functions, including the construction of Open GIS
 Consortium (OGC) Web Service operation requests to obtain data that may be
 used by other, more specialized or more fully-featured thick-client applications.
- Support applicable Information Services Board Policy and Standards.

Benefits of the GIT Portal Business Rules and Processes

The portal will be governed by a set of business rules and processes that are intended to support a single approach to managing and operating certain GIT activities as enterprise initiatives. The enterprise approach:

- Defines business processes that facilitate integration and reuse of GIT data and application components across the enterprise
- Brings more clarity to how stakeholder groups relate and how they jointly work together to achieve an enterprise approach to certain GIT issues
- Makes use of existing IT policy and governance structures to achieve the GIT EA vision.

Relationship to Other Portal Initiatives

The GIT Portal is designed to leverage existing spatial data resources in a consistent, coherent format, to provide the foundation and framework for turning spatial data investments into valuable enterprise information resources. The following characterize how the GIT Portal will integrate or interface with other significant portals (subject to appropriate security and privacy considerations of RCW 42.17).

- Access Washington Portal Thematic index of GIT Portal catalog available to Ask George and reciprocal URL exchange with Access Washington
- WA Enterprise Business Portal Reciprocal URL exchange and access via Ask George catalog index – additional linkages explored as portals evolve
- WA State NSDI Clearinghouse Initially, reciprocal URL exchange and access via NSDI gateway catalog index
- WA Natural Resource Portal (NRP) GIT Portal builds on the extended vision
 of the NRP to provide direct access to baseline geospatial data needed for
 Salmon recovery and other initiatives requiring access to an integrated set of
 spatial data Initially reciprocal URL exchange and access via Ask George
 catalog index and other appropriate mechanisms
- National GEOS* and National Map GIT Portal will provide NSDI gateways'
 with metadata, and Web Services indices directly and through eventual regional
 clearinghouses. (*GEospatial One Stop Portal)
- Other Significant Portals Through multiple mechanisms GIT Portal resources will be available for harvesting or direct resource access upon request

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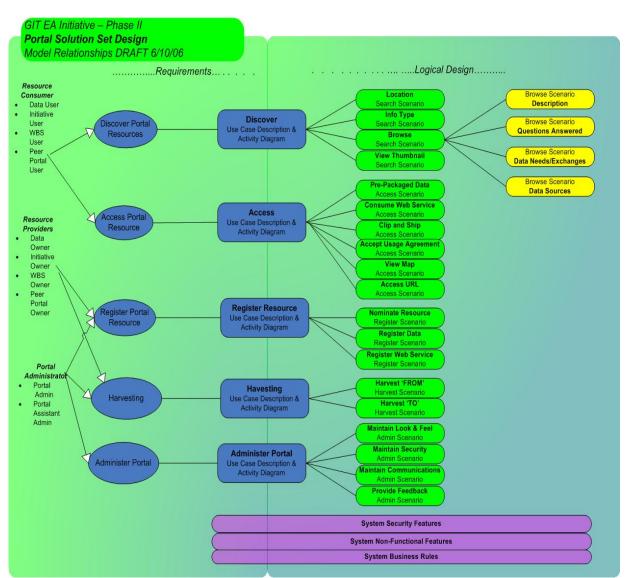
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The remainder of this document captures Portal Requirements and Logical Design Features using the following approach and hierarchy:

- Portal Use Cases There are five use cases that reflect high-level portal requirements. For each use case the documents below provide more detail about desired system features (Sections 4 through 8):
 - Activity Diagram and Description further describes use case and identifies scenarios
 - Associated Scenarios documents system functional features
 - Data Exchange Diagram for each use case
 - Security, Non-functional and Business features are summarized for each use case in Section 9.

Accompanying diagram depicts the document organization.



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107	GIT Portal
108	Discovery and Search
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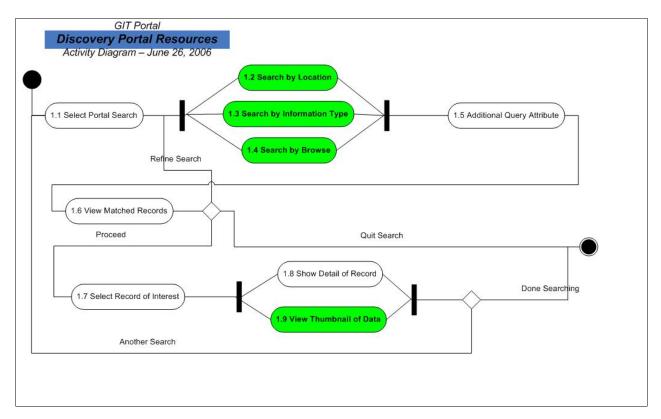
4. GIT Portal Summary Use Case: Discovery - Search

Description:	Discover resources on portal through various search mechanisms	
Primary Actor:	Portal Searcher	
Scope:	GIT Portal	
Level:	Summary Goal	
Stakeholders and Interests:	Usage Analyst: count the interaction for inclusion in usage statistics, log unsuccessful searches Searcher: Resources described in compliance with GIT Standards	
Precondition:	Searcher logged on to system, network connection present, portal contains some information	
Minimal Guarantee:	Always returns search results (may be empty set)	
Success Guarantee:		
1.	If search criteria match available information then matching information is displayed.	
2.	If search criteria do not match available information then let searcher know there is no match.	
Main Success Scenario:		
1.	Searcher informs portal about desired search parameters	
2.	Portal searches based on the following scenarios:	
a)	Location	
<u>b)</u>	Information Type	
<u>c)</u>	Open text	
<i>d)</i>	Other	
Extensions:	(See Scenario descriptions for Extensions)	
Non-Functional Requirements:	(See Section 9)	

4.1. Resource Discovery Activity Diagram and Description

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1.0 **Resource Discovery** Activity Diagram Description

- 1.1 Select Portal Search Every Actor selects Search Portal tab
- 1.2 Search by Location Every Actor selects Search by Location and enters one of the following
 - Coordinates
 - Address or
 - Selects bounding rectangle on map
- 1.3 Search by Information Type Every Actor selects an information category from a dropdown box
- 1.4 Search by Browse Every Actor selects browse entire catalog by category from a drop down box
- 1.5 Additional Search Attribute allows Every Actor to add an additional search attribute (for instance to search on both Information Type to a Location attribute at the same time).
- 1.6 View Search Results Every Actor views initial search results and chooses one of the following:
 - Refine Search Results
 - Select Record of Interest
 - Quit Search
- 1.7 Select Record of Interest Every Actor highlights a record of interest
- 1.8 View Record Detail Full metadata of highlighted record is displayed (default)
- 1.9 View Map of Data Map (thumbnail) of highlighted record is displayed if Every Actor clicks on Display Map button

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120 4.1.1. Discovery Scenario 1: Find All Resources by Location

Portal Resource Discovery Use Case – There are three Scenarios associated with this Use Case

Scenario 1 - Find All Resources by Location

Description:

Utilizing the process described in Use Case Activity Diagram a portal user can query the portal catalog (metadata) to determine what resources are available through the portal for a <u>particular location</u>. Metadata for all resources available through the portal are registered in the portal catalog. Query results are first represented by a summary of the metadata for records that match the query location attributes (see Response Data Needs). Subsequently portal user can drill down to the full metadata record and or view a thumbnail image of the data to help determine if the resource would be of value to them. This search maybe a predecessor to downloading data.

Question(s) Addressed:

- 1. Find all the portal data resources associated with this location (by coordinates, address or bounding rectangle)
- 2. Is a particular resource likely to be useful for my purposes?
- 3. Who can I contact to find out more about this resource?
- 4. How old is this resource?
- 5. How large is this resource (i.e. dataset size)?

Query Data: Needs	Response Data Needs
 Lat/Lon coordinates (decimal 	FGDC Metadata per ISB/GIT
degrees) or,	standard
2. Address or,	a. Data Title
3. Bounding Rectangle	b. Summary Abstract
	c. Currency
	d. Contact Coverage
	e. Other (scale,
	Access to underlying dataset
	See Data Down Load Scenario

Data Sources

- 1. Portal Catalog (metadata)
- 2. Linkage(s) to underlying dataset may be distributed

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126 4.1.2. Discovery Scenario 2: Find All Resources by Type

GIT Portal Resource Discovery and Access Use Case – There are three Scenarios associated with this Use Case

Scenario 2 - Find Resources by Information Type

Description:

Utilizing the process described in Use Case Activity Diagram a portal user can query the portal catalog (metadata) to determine what resources are available through the portal for a particular resource type. (Metadata for all resources available through the portal are registered in the portal catalog). Query results are first represented by a summary of the metadata for records that match the query location attributes. Subsequently portal user can drill down to the full metadata record and or view a thumbnail image of the data to help determine if the resource would be of value to them. This search maybe a predecessor to downloading data.

Question(s) Addressed:

- 1. Find all the portal data resources associated within this category (ISO Topic Categories
- 2. Is a particular resource likely to be useful for my purposes?
- 3. Who can I contact to find out more about this resource?
- 4. How old is this resource?
- 5. How large is this resource (i.e. dataset size)?

Query Data: Needs

- Resource Type (picked one or more from drop down ISO Topic list +)
 - a. farming 001
 - b. biota 002
 - c. boundaries 003
 - d. economy 004
 - e. elevation 006
 - f. environment 007 g
 - g. geoscientificInformation 008
 - h. health 009

- i. imageryBaseMapsEarthCover 010
- j. intelligenceMilitary 011
- k. inlandWaters -012
- I. location 013
- m. oceans 014
- n. planningCadastre 015
- o. society 016
- p. structure 017
- q. transportation 018
- r. utilitiesCommunication 019
- s. webservice ++1

Response Data Needs

- 1. FGDC Metadata per ISB/GIT standard
 - a. Data Title
 - b. Summary Abstract
 - c. Currency
 - d. Contact Coverage
 - e. Other (scale,
- 2. Access to underlying dataset See Data Down Load Scenario

Data Sources:

- Portal Catalog
 - a. Access to underlying dataset See Data Down Load Scenario

Data Sources:

- 1. Agency Metadata compliant with ISB/GIT Standards
- 2. Underlying Data

4.1.3. Discovery Scenario 3: Find All Resources by Browse

GIT Portal Resource Discovery and Access Use Case – There are three Scenarios associated with this Use Case

Scenario 3 – Find by Browse

Description:

Utilizing the process described in Use Case Activity Diagram a portal user can browse the portal catalog (metadata) to determine what resources are available through the portal. (Metadata for all resources available through the portal are registered in the portal catalog). Browse catalog results are first represented by a summary of the metadata for records from the catalog that match the query attributes. Subsequently portal user can drill down to the full metadata record and or view a thumbnail image of the data to help determine if the resource would be of value to them. This search maybe a predecessor to downloading data.

Question(s) Addressed:

- 1. Find all the portal data resources associated with this location (by coordinates, address or bounding rectangle)
- 2. Is a particular resource likely to be useful for my purposes?
- 3. Who can I contact to find out more about this resource?
- 4. How old is this resource?
- 5. How large is this resource (i.e. dataset size)?

Data Needs:

- 1. FGDC Metadata per ISB/GIT standard
 - a. Data Title
 - b. Summary Abstract
 - c. Currency
 - d. Contact
 - e. Coverage
 - f. Other (scale,
- 2. Access to underlying dataset
 - a. See Data Down Load Scenario

Data Sources:

- 1. Agency Metadata compliant with ISB/GIT Standards
- 2. Underlying Data datasets are those identified in the GIT EA Conceptual Architecture: Orthoimagery, Transportation, Hydrology, Elevation, Governmental Units, Cadastre, Geodetic Control and other significant geo-datasets

4.1.4. Discovery Data Exchanges

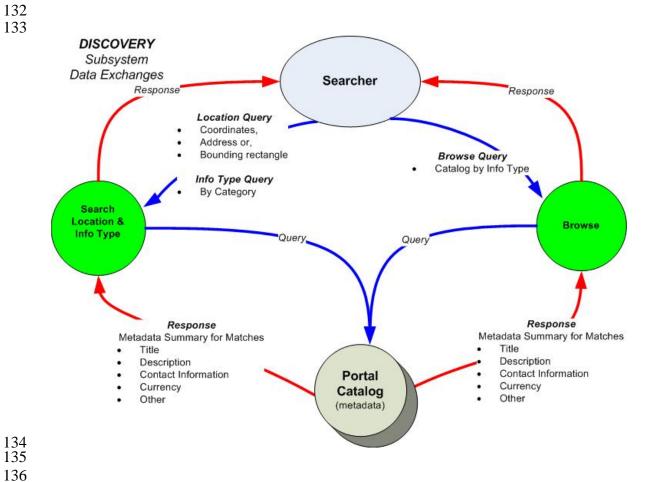
Data Exchanges

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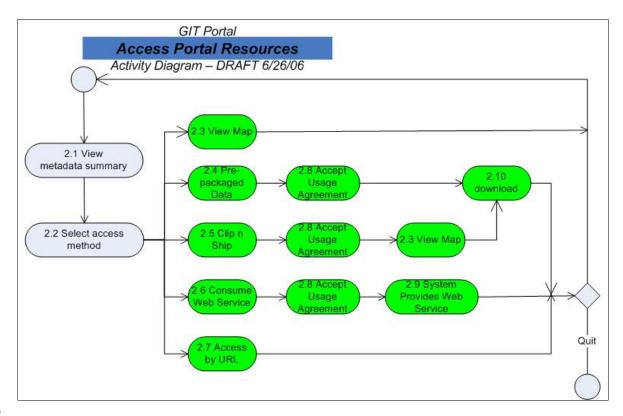
150 5. GIT Portal Summary Use Case: Resource Access

Description:	Access resources registered with portal through web services; download mechanisms, including prepackaged and custom extract subsets; and URL links to registered peer portals.	
Primary Actor:	Resource Consumer	
Scope:	GIT Portal	
11	0	
Level:	Summary Goal	
Stakeholders and Interests:	Resource Consumer: resource is as described in metadata and compliant with existing GIT Standards. Resource Owner: usage term and conditions have been accepted	
	and will be followed.	
Precondition:	Primary actor has navigated the portal website and 'discovered' the resource of interest. Resource of interest is downloadable, viewable through a browser, available for interactive access through a standards based web service, or accessible through a URL.	
Minima	Contains attainments to make an encount of management and indicates	
Minimal Guarantee:	System attempts to make requested resource available or indicates resource is unavailable	
Guarantee.	10304100 13 4114VAIIADIO	
Success		
Guarantee:		
1.	Resource is downloaded/accessed	
Main Success		
Scenario:	Resource Consumer selects access method	
1. 2.	Portal asks Resource Consumer to accept usage agreement	
3.	Resource Consumer accepts usage agreement	
4.	Portal delivers resource	
Extensions:		
1.	Pre-packaged Download	
2.	Consume Web Services	
3.	Clip and Ship	
<i>4.</i> 5.	Access by URL	
J.	Accept Usage Agreement	
Non-Functional Requirements:	See Section 9	

5.1. Access Activity Diagram and Description

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2.0 Resource Access Activity Diagram Description

- 2.1 View Metadata Summary Consumer has elected to view a metadata summary record. Options for accessing the associated resource are presented.
- 2.2 Select Access Method Consumer elects to access the data through one of several methods. All access options depicted in the Activity Diagram may not be available for the resource.
- 2.3 View Map Consumer views selected resource against standard base data to determine if data is of interest.
- 2.4 Pre-Packaged Data Consumer elects to obtain the data in a prepackaged format which is available for immediate download.
- 2.5 Clip N Ship Consumer elects to extract a spatial subset of data using an interactive map viewer to establish spatial extent for extraction.
- 2.6 Consume a Web Service Consumer elects to access through an OGC compliant web service which can be either a feature or map service depending on functionality allowed and supported by Data Provider.
- 2.7 Access by URL Consumer elects to connect to peer portal housing the resource
- 2.8 Accept Usage Agreement Consumer accepts/rejects Resource Provider's usage agreement.
- 2.9 System Provides Access via Web Service Resource is transmitted to Consumer's client application using standard protocols.
- 2.10 System provides downloaded data through one of two mechanisms as selected by Consumer:
 - Pre-Packaged Download Data is downloaded immediately to the Consumer
 - Clip N Ship System initiates a background process to clip the dataset, format per Consumer's specifications, produce an FTP accessible file, and notify user via email of availability.

5.1.1. Access - Scenario 5: View Map

Access Use Case has six scenarios

Access Scenario - View Map

Description:

This scenario provides the consumer with the ability to view a representation of the data directly from the portal. It provides the consumer with an incomplete but quick mechanism to assess the data's utility.

The data should always be returned in an onscreen map.

When used in conjunction with the Clip and Ship Scenario, the viewer is a web based, ArcIMS like viewer and provides access to custom tools to support data extraction.

Note: This could just be thumbnails when the portal is initially set up.

Question(s) Addressed:

Does the data selected look like the data the resource consumer wants to access?

How does a resource consumer identify the data extraction area for the Clip and Ship Scenario?

Data Needs:

- 1. If using an ArcIMS-like viewer
 - a. Symbolized dataset
 - b. Selectable base data such as political boundaries, hydrology and transportation.
- 2. Or if using Graphic viewer (static image, PDF, JPEG, ...
 - a. A thumbnail of symbolized dataset
- 3. Or if using ArcMap
 - a. Link to the Data Owner's ArcGIS server

Response Data Needs

- 1. If using an ArcIMS like viewer
 - a. Zoom in, pan, access to attribute data
- 2. If using graphic viewer (static image, PDF)
 - a. Some zoom capability
- 3. Arc Map
 - a. Full GIS capability provided by user desktop ArcGIS environment

Data Sources:

1. Data owner needs to provide access to data and/or thumbnail.

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159 5.1.2. Access - Scenario 6: Pre-package Data Download

Scenario 6 - Pre-packaged Data Download

Description:

Portal provides access to datasets which are packaged for download prior to a request by a Consumer. Data suitable for this scenario are relatively static, unavailable through a live link or Web Service, composed of multi-table structures, and/or data for which users want comprehensive statewide coverage that would be too large for 'clip and ship'.

Question(s) Addressed:

How can a consumer acquire a dataset for use in their own processing environment?

How can the consumer obtain data if Web services are too slow or are unavailable?

How can the consumer obtain comprehensive data, both spatial and tabular which may not be available through other means?

Data Needs:

Spatial data, metadata, ancillary tables.

Data Sources:

Data Provider produces the packaged data and posts it on the portal or provides a link to the dataset. Data is compressed into a single WinZip formatted file.

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163 5.1.3. Access - Scenario 7: Consume Web Services

Scenario 7 – Consume Web Services

Description:

Consumers may want to incorporate spatial data in client applications by directly accessing it through the portal rather than utilizing local copies.

Question(s) Addressed:

Can the consumer access the most current data available through the portal? Can the consumer access data while avoiding unnecessary duplication of data. Can the consumer quickly compare source data on the portal to data stored on the consumer's local system?

Data Needs:

Metadata.

High speed connection

De-normalized dataset.

Properly structured data transmission format and protocol (WS Stack).

Data Sources:

Standards based Web Service providing access to images, feature level data, and tabular data.

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5.1.4. Access – Scenario 8: Clip N Ship

Scenario 8 – Clip and Ship

Description:

This scenario provides a means for consumers who do not have high speed internet connections to access portal datasets. Consumer needs a local copy of the dataset to support complex analysis requiring closer integration with their own datasets. The portal provides a map based means for the consumer to browse the data in context with other base layers. The user identifies the area of interest by setting the appropriate map extent using the browser. The user requests the dataset, specifies values for extraction parameters (output projection, output format) and provides an email address for notification. The portal initiates a background process to extract the data, project and reformat it as requested by the user, compress it and supporting tables and metadata into a single file, and store it on a secure FTP site. The portal sends email notification (encrypted during transmission) to the user indicating the availability of the dataset with instructions describing how to retrieve it. Access to the data on the FTP site is secured by a unique password provided to the user in the email. The consumer retrieves the data via a secure network connection. The dataset is deleted by the portal after 72 hours.

(Clip and Ship Continued)

Question(s) Addressed:

Can a user acquire a spatial subset of data with comprehensive tabular data?

Can the consumer access portal datasets when Web Services are unavailable or too slow?

Data Needs:

Spatial data, metadata, ancillary tables

Data Sources:

Data provider posts data on the Portal or provides live link to data stored elsewhere. Ideally the same data feeds the interactive map browser and web service.

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5.1.5. Access - Scenario 9: Access by URL

Scenario 9 - Access by URL

Description:

Utilizing the process described in Use Case Activity Diagram a portal user can view and access information contained on other portal sites by selecting a URL from a drop-down list. After selecting a URL, the user would be sent a message indicating that they are leaving the GIT Portal and will be asked if they want to continue. If yes, then they would be connected to the remote site.

If the URL is broken, then the user would be notified that the site is unavailable and an email would be sent to the Portal Administrator indicating which link is broken.

Question(s) Addressed:

- 1. What other registered portals does the user have access to.
- 2. Does expanding the users access to other portals help find needed information?
- 3. Are the sites active and accessible by the user?

Data Needs:

- 1. List of Peer Portal URL's
- 2. Status of registered portals.

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171 5.1.6. Access – Scenario 10: Accept Usage Agreement

GIT Portal Resource Access Use

Scenario – Accept Usage Agreement

Description:

Utilizing the process described in Use Case Activity Diagram a portal user can access the portal data. After selecting data by use of the Portal Discovery use case, the Resource Consumer will need to accept a usage agreement prior to obtaining the data.

Consumer of portal resources must agree to usage terms prior to usage – searches may be conducted without acceptance of usage terms but download, data viewing and service consumption must be preceded by usage term acceptance

Question(s) Addressed:

1. Does the user accept usage restrictions (if any) placed on this data?

Data Needs:

Two or three generic data usage agreements (rather than individually tailored for each dataset)

- a. Publicly Available Data (little or no restrictions except acknowledgement of steward)
- b. Sensitive Data (access and usage limited by roles)
- c. Proprietary Data (special case....)

Example acceptance form (DNR)



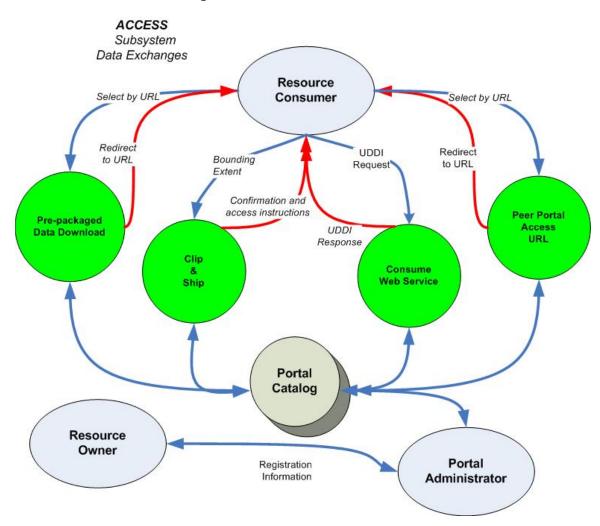
Response Data Needs

- 1. Minimally, we need no response data, if we just want to ensure they were notified.
- 2. Maximally, we could acquire contact and statistical data such as:
 - a. Contact: Email; phone, etc.
 - Statistical: Type of Organization (Federal, State, Local, Tribal, private, etc.)
 - c. Verification: Supervisor, etc.

Data Sources:

- 1. Attorney General should review agreement.
- 2. Special provisions should be provided by data owners.

5.1.7. Access Data Exchanges



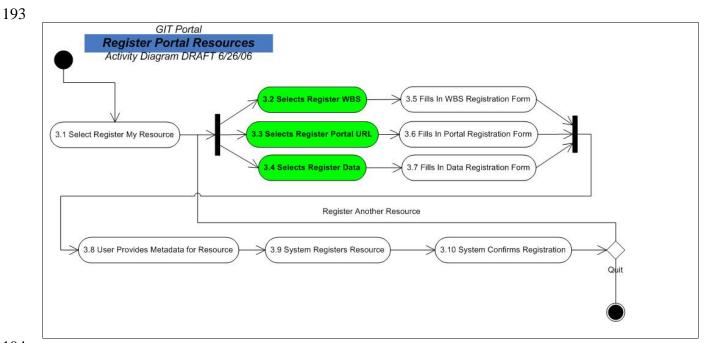
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184	GIT Portal
185	Resource Registration
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6. GIT Portal Summary Use Case: Resource Registration

Description:	Resource owner can nominate resource additions to portal – provides communication link to portal administrator who subsequently works with portal steering committee to make decision about adding to portal
Primary Actor:	Resource Owner
Filliary Actor.	Nesource Owner
Scope:	GIT Portal
Соорол	on rotal
Level:	Summary Level Goal
Stakeholders and Interests:	Resource Owner: Receipt of nomination is acknowledged by administrator within 2 business days Administrator: Sufficient information is collected from Resource Owner to allow contact for follow-up Portal Steering Committee: Review submissions
Precondition:	User logged on
Minimal Guarantee:	Resource Owner request for consideration is acknowledged if successfully sent. If not successful, user receives 'not able to send' message is returned
_	
Success Guarantee:	
1.	If not successful a suitable message is returned to Resource Owner
Main Success Scenario:	
1.	User fills in Resource Description form and selects from one of the three following scenarios.
2.	Select One of Register: a) Web Services, b) Portal URL, c) Data
3.	User fills in Resource Description form
4.	User adds in contact information
5.	User electronically forwards nomination to portal administrator
6.	Administrator receives notification with resource description
7.	Resource Owner notified of acceptance
8.	End Use Case
Extensions:	(See Scenarios for description of Extensions)
	WBS, URL, Data
Non-Functional Requirements:	(See Section 9)

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6.1. Resource Registration Activity Diagram and Description



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3.0	Resource REGISTRATION Activity Diagram Description
3.1	Select Register Resource – Resource Owner selects Register My Resource from the menu
3.2	Selects Register WBS – skip to 3.5
3.3	Selects Register Portal URL – skip to 3.6
3.4	Selects Register Data – skip to 3.7
3.5	Form is presented that collects information necessary to register a Web Service with Portal
3.6	Form is presented that collects information necessary to register a URL with Portal
3.7	Form is presented that collects information necessary to register a data resource
3.8	User provides metadata for resource
3.9	System updates catalog with resource information
3.10	Portal responds with confirmation that resource has been registered or error message

6.1.1. Registration – Scenario 11: Web Services

GIT Portal Resource Registration Use Case – There are three Scenarios associated with this Use Case

Scenario - Register Web Services

Description:

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Utilizing the process described in Use Case Activity Diagram a Resource Owner can nominate the addition of web base service(s) for inclusion into the GIT Portal. The resource owner will provide information about the nomination via an on-line registration form and forward it to the Portal Administrator. A confirmation email will be automatically forwarded to the Resource Owner upon receipt of the request.

The Portal Administrator will review the submission for completeness and then forward it to the Portal Steering Committee for acceptance/denial and the Resource Owner will be notified of the decision. If accepted, the Resource Owner will make the web based service available.

Question(s) Addressed:

- 1. Is the web base service appropriate for inclusion on GIT Portal?
- 2. Is the resource being proposed being administered and maintained by the Resource Owner?
- 3. Is the resource being accessible by the GIT Portal or does an interface to the service need to be constructed?
- 4. What is the process for accessing this service?

Data Needs

- 1. List of web services that are accessible from the GIT Portal
- 2. Appropriate access

Data Sources

- 1. Metadata
- 2. Internet
- 3. Properly structures data

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200 **6.1.2. Register – Scenario 12: URL's**

GIT Portal Resource Registration Use

Scenario - Register Portal URL's

Description:

Utilizing the process described in Use Case Activity Diagram a Resource Owner can nominate the addition of peer portal sites for listing and access on the GIT Portal. The resource owner will provide information about the nomination via an on-line registration form and forward it to the Portal Administrator. A confirmation email will be automatically forwarded to the Resource Owner upon receipt of the request.

The Portal Administrator will review the submission for completeness and then forward it to the Portal Steering Committee for acceptance/denial and the Resource Owner will be notified of the decision. If accepted, the Resource Owner will make the peer portal available.

Question(s) Addressed:

- Is Resource Owners peer portal nomination appropriate for inclusion into GIT Portal?
- 2. Is the proposed peer portal being administered and maintained by the Resource Owner?
- 3. Is the nominated peer portal actually accessible by the GIT Portal?

Data Needs

- 1. List a peer portals that are accessible from the GIT Portal
- 2. List of URL's

Data Sources

- 1. Metadata
- 2. Internet
- 3. Properly structures data

202 **6.1.3.** Register – Scenario 13: Data

GIT Portal Resource Registration Use Case

Scenario 3- Register Data

Description:

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Utilizing the process described in Use Case Activity Diagram a Resource Owner can nominate the addition of data sets for use and access on the GIT Portal. The resource owner will provide information about the nomination via an on-line registration form and forward it to the Portal Administrator. A confirmation email will be automatically forwarded to the Resource Owner upon receipt of the request.

The Portal Administrator will review the submission for completeness and then forward it to the Portal Steering Committee for acceptance/denial and the Resource Owner will be notified of the decision. If accepted, the Resource Owner will make the data available via web mapping services or another appropriate access method.

Question(s) Addressed:

- 1. Is the Resource Owner data nomination appropriate for inclusion on GIT Portal?
- 2. Is the data set being proposed actually owned by the nominator?
- 3. Is the data set properly documented (metadata)?
- 4. Is the resource being proposed being administered and maintained by the Resource Owner?
- 5. Is the data set being nominated actually accessible by the GIT Portal or does data storage need to occur on the GIT Portal?
- 6. Does the resource conform to data standards?

Data Needs

- 1. List of data sets that are accessible from the GIT Portal and can be included into portal search and display functions.
- Conformance to available standards
- 3. Compliance with ISB metadata standards

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6.1.4. Register Data Exchanges

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REGISTER RESOURCE Subsystem Registration Data Exchanges Confirmation Portal Resource Registration Metadata Administrator Informaton Owner Registration Access/Security Role for resource and owner Metadata Registration Metadata Registration Registration Register Data **Register Access** Confirmation Roles Register Register Portal Web Service Portal Administration **Data Store**

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224	GIT Portal
225	Harvesting
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7. GIT Portal Summary Use Case: Harvesting

GIT Portal has appropriate structure to harvest from and be Description: harvested by other portals like GOS, PNW-RGIC; NED; NBII **Primary Actor:** Administrator GIT Portal Scope: Level: Summary Level Goal Scenarios Stakeholders and Administrator: Harvesting requirements are known and supportable Peer Portals: Permission is granted link and harvest between sites Interests: Peer Portal Owners: Usage Terms and Conditions will be acknowledge and supported Resource Consumer: Resources meet minimum GIT standards or consumer beware notice is given Resource Consumer: Has access to a more complete listing of information Precondition: Appropriate authority and access approved Minimal Information from other Peer Portals is displayed (metadata and data) and information on GIT Portal is made available Guarantee: Success Guarantee: If not successful a suitable message is returned to user 1. Main Success Scenario: Administrator selects from one of the two following scenarios 1. Select Peer Portals Harvest FROM the GIT Portal a) b) Select Peer Portals are Harvested TO the GIT Portal 2. System confirms Portal catalog update 3. End Use Case Extensions: 1. Harvest FROM Scenario Harvest TO Scenario 2.

System checks Portal links periodically to ensure valid and remote

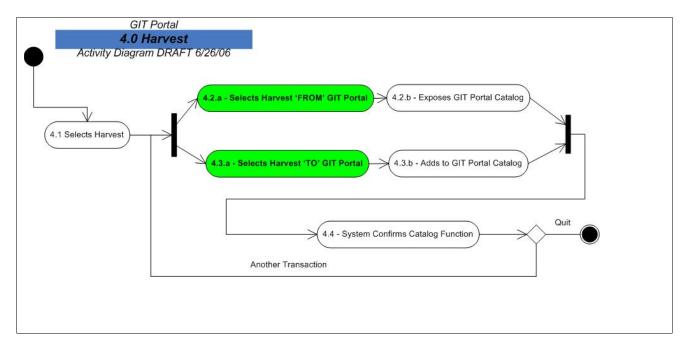
access to and from the various peer portal sites.

Non-Functional Requirements:

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7.1. Harvesting Activity Diagram and Description

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Resource HARVEST Activity Diagram Description

- 4.1. Select Harvest Administrator selects Harvest from Admin Menu
- 4.2. a Harvest 'FROM' Administrator selects Harvest FROM GIT Portal
- 4.2.b Administrator makes arrangements to allow access to the GIT Portal Catalog index (by WBS?) to allow harvesting by peer portal
- 4.3. a Harvest 'TO' Administrator selects Harvest TO GIT Portal
- 4.3.b Administrator makes arrangement with peer portal to harvest their resource listing and include them in the GIT Portal Catalog
- 4.4. System sends confirmation of Catalog update to administrator
- 4.5. Administrator selects another transaction or guits.

237 7.1.1. Harvest – Scenario 14: FROM

GIT Portal Harvesting Use Case – There are two Scenarios associated with this Use Case

Scenario 1 – Information From GIT Portal (Peer Portals Harvest GIT Portal)

Description:

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Utilizing the process described in Use Case Activity Diagram the portal administrator can make available to other portals the resources that are listed and tracked on the GIT Portal. This means that other peer portals, following accepted reporting standards and protocols, could harvest the GIT Portal's catalog.

Question(s) Addressed:

- 1. Is information from GIT Portal sites available at other Peer Portals?
- 2. Is information at other Peer Portals covering the region available for display and access to others?

Data Sources

- 1. Harvesting: collect and publish metadata in any of four types of sources:
 - a. a Z39.50 server,
 - b. Open Archive Initiative for Harvesting Protocol (OAI-PMH) data provider or services.
 - c. ArcIMS Metadata Server, or a
 - d. Web-accessible folder.
 - e. Note: the latest Z39.50 software upgrade usually contains the required fields for an identifier and date to enable updating
 - f. See requirements for catalog services OpenGIS® Catalogue Service Implementation Specification (CAT) which defines common interfaces to discover, browse, and query metadata about data, services, and other potential resources
- 2. Portal Catalog (metadata)
- 3. Portal Catalog (data)
- 4. Locally stored metadata on GIT Portal

7.1.2. Harvest – Scenario 15: TO

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GIT Portal Harvesting Use Case

Scenario 2 –Information To GIT Portal (Peer Portals Are Harvested by GIT Portal)

Description:

Utilizing the process described in Use Case Activity Diagram the portal administrator can access and retrieve information from other peer portals and those resources are listed and populated into the GIT Portal catalog. This means that the GIT Portal followings the accepted reporting standards and protocols to allow automated harvesting of information.

Question(s) Addressed:

- 1. Is additional information from other sites available to access?
- 2. Is information that covers the region available to display and query?

Data Sources

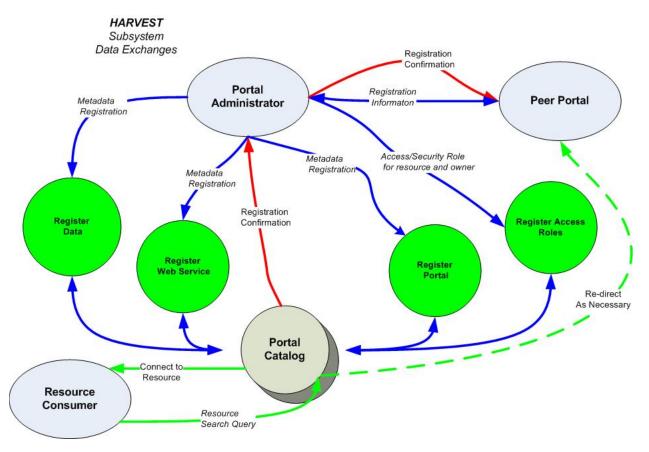
- 1. Harvesting: collect and publish metadata in any of four types of sources:
 - g. a Z39.50 server,
 - h. Open Archive Initiative for Harvesting Protocol (OAI-PMH) data provider or services.
 - i. ArcIMS Metadata Server, or a
 - j. Web-accessible folder.
 - k. Note: the latest Z39.50 software upgrade usually contains the required fields for an identifier and date to enable updating
 - I. See requirements for catalog services <u>OpenGIS® Catalogue Service</u> <u>Implementation Specification</u> (CAT) which defines common interfaces to discover, browse, and query metadata about data, services, and other potential resources
- 2. Portal Catalog (metadata)
- 3. Portal Catalog (data)
- 4. Locally stored metadata on GIT Portal

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7.1.3. HARVEST Data Exchanges



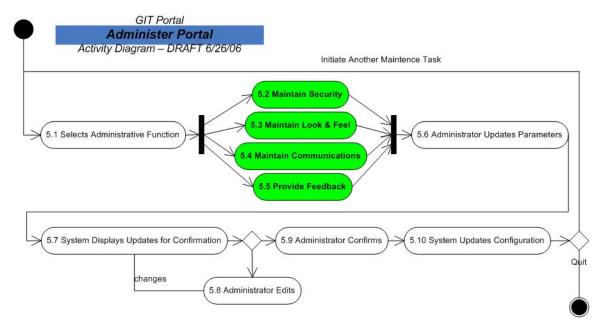
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259	GIT Portal	
260	Administration	
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8. GIT Portal Summary Use Case: Portal Administration

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Maintain portal linkages, service registers and administrative access rights. Portal should be easy to maintain with all maintenance functions available through an integrated management console.
Administrator
Administrator
GIT Portal
On Fortal
Summary Level
Summary Level
Administrator: Able to configure portal and grant access to Data Owner and Resource Owner for metadata Create, Read, Update, Delete operations. Resource Owner: Able to post metadata.
Portal site operational, administrator has security access and rights
Portal is available to: service queries and, accept Create, Read, Update, Delete transactions from Administrator.
Portal hardware, software, content, and access control lists are actively maintained
Administrator accesses portal and logs into the management console (or similar maintenance application)
Portal displays choice of available maintenance categories
Administrator selects maintenance category
Portal displays available maintenance parameters for the category
Administrator performs Create, Read, Update, Delete transaction on one or many maintenance parameters
Portal displays updates for confirmation
Administrator Confirms transaction
Portal alters configuration, then closes management console
Maintain Security
Maintain Look and Feel
Maintain Communications
Provide Feedback
(See Section 9)

8.1. Portal Administration Activity Diagram and Description



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Portal Administration Activity Diagram Description

- 5.1 Selects Administration Function Administrator selects administration function from pre-defined set of choices in a portal maintenance console
- 5.2 Maintain Security Administrator creates, updates, or deletes Access Control Lists which associates specific users or groups of users with permissions to access specific functions of the Portal
- 5.3 Maintain Look and Feel Administrator accesses controls for the style, page-element placement, and page-content of the Portal pages presented to Every Actor.
- 5.4 Maintain Communications (Provide Feedback) Administrator maintains communications configuration which allows All Users to provide feedback
- 5.5 Provide Feedback parameters are updated
- 5.6 Administrator Updates Parameters Administrator creates, updates, or deletes parameters of security, look & feel, or communications
- 5.7 .9 Portal Administration Console presents confirmation dialog which displays a modal confirmation window with an Accept, Edit, and Cancel choice.
 - 5.10 System confirms and presents option to do another function or quit

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8.1.1. Administration - Scenario 16: Maintain Security

GIT Portal Summary Use Case: Portal Administration has four scenarios **Scenario Maintain Security**

Description:

Maintain Portal Security which will manage access to portal spatial data, metadata, and Portal maintenance functions with the most restrictive level of access appropriate for a given role-based user.

Question(s) Addressed:

What is the hierarchical structure of the portal security roles:

- Which users can register new, or update, or delete spatial data and metadata
- Which users can register new spatial, or update, or delete services
- Which users can create new, or update, or delete other portal content
- Which users can alter portal look and feel
- Which users can update operating system or portal software

Data Needs:

List of registered portal users

List of Portal administrative groups

Membership of portal users with portal administrative groups

Access control assignments to portal groups and/or registered users/administrators

Data Sources:

Lists of spatial data with associated data steward user identifiers

List of spatial services with associated service steward user identifiers

List of Portal Functions with identified administrative roles defined

List of portal administrators to be assigned to portal roles, with user identifier

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273 8.1.2. Administration - Scenario 17: Maintain Look and Feel

GIT Portal Summary Use Case: Portal Administration

Scenario Maintain Look and Feel

Description:

Maintain Portal Look and Feel allows configuration of the layout of portal pages, including content of page elements; placement of page elements; color and font style; data discovery report layout; and map content (layout, navigation and query tools, legend, symbology)

Question(s) Addressed:

What should be the layout, behavior, style of the portal?

How should the interactive maps be symbolized?

Which map navigation, selection tools are supported?

What will be the layout of metadata reports?

Data Needs:

Specific requirements for initial Portal look and feel

Specific requests to alter the look and feel of the portal

Data Sources:

Portal Steering Committee (or other oversight group) guidance on look & feel of portal

Portal feedback submitted by users

DIS Web Presentation Guide X.X (5.0 as of May 2006)

8.1.3. Administration – Scenario 18: Maintain Portal Communications

GIT Portal Summary Use Case: Portal Administration

Scenario Maintain Communications

Description:

Portal communications directs user feedback to the appropriate recipient. The Portal Administrator (or other designated actor) is responsible for forwarding feedback to the appropriate resource owner, or the portal oversight group. This also provides a mechanism for the Portal Administrator to directly communicate with Resource Owners and Every Consumer

Question(s) Addressed:

What's new?

What is featured?

Which actors respond to comments & questions submitted through the Portal feedback process

Data Needs:

Classes or feedback responders (Resource Owner, Portal oversight group,)

Data Sources:

Feedback messages submitted to portal

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278 8.1.4. Administration – Scenario 19: Provide User Feedback Mechanism

GIT Portal Summary Use Case: Portal Administration

Scenario Provide User Feedback Mechanism

Description:

Portal User Feedback Mechanism is a simple web based email functionality that allows users (every actor) to communicate with the portal. The initial destination of the email is to the portal administrator for appropriate forwarding. Feedback can be form based and must provide place for comments or questions.

Question(s) Addressed:

Simple communication mechanism that is <u>easily invoked from most portal web pages</u> – provides channel for portal user to present questions or comments about portal and content

Data Needs:

Contact information for user submitting comment or question

Question or comment

Automatic system confirmation of receipt

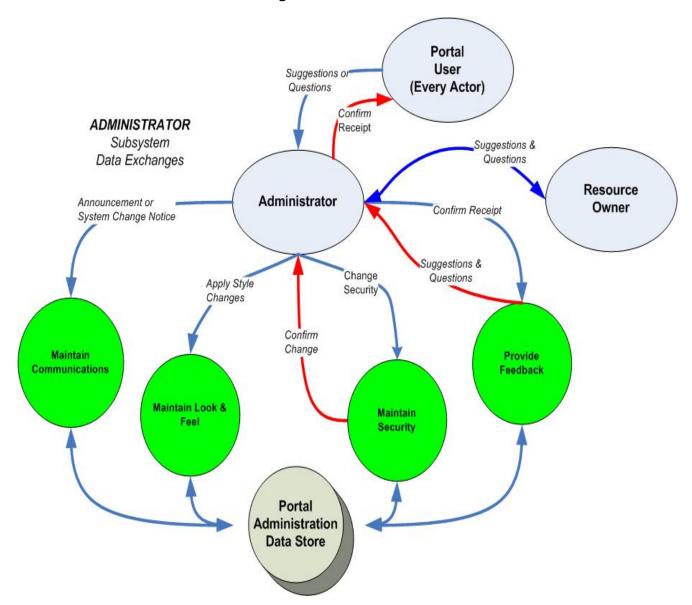
Mechanism to forward the question/comment to appropriate responder (resource owner, portal administrator, etc)

Data Sources:

User feedback messages submitted to portal

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8.1.5. ADMINISTRATION Data Exchanges



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GIT Portal
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Security, Non-Functional and Business Features
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9. GIT Portal Security, Non-Functional and Business Features

9.1. Portal Security

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Washington State Security Policies: The GIT Portal Site and participating servers must be configured and actively managed to maintain site integrity. Furthermore the GIT Portal configuration and maintenance procedure must follow the policies outlined in Washington Information Services Board Security Policies

GIT Portal Secure Access: The GIT Portal must be able to support point-to-point secure access using recognized Internet cryptographic standards such as Secure Sockets Layer (SSL) and Transport Layer Security (TLS). This is required for Administrator access, Resource Owner access and certain Resource Consumer access when resource license dictates that only authenticated users can access the resource. GIT Portal intends to use Secure Access Washington services and be compliant with ISB Security Standards and WACIRC guidelines: (Policy No: 401-S2)

- 1. **Authentication** is the process of verifying the identification of a user entity. Authentication will be accomplished using an ID/password approach. User will be identified by a particular logon ID and then authenticated by correctly providing the password assigned to the logon ID.
- Access Control Access control determines what an authenticated user can do within the system. Once a user is identified and authenticated, the security mechanism shall control what resources can be accessed by that user. Access will be determine by a role base schema

Portal User Access Management

The GIS Portal infrastructure must support role-based access, managed with access control lists. At a minimum the following roles must be supported:

١	lists. At a minimum the following roles must be supported:		
	Administrator	Portal Administrator authorized to maintain security access lists (create, read, update, and delete) containing Resource Owners, Authenticated Resource Consumers, and Public Feedback Providers. The Portal Administrator can create, update, and delete GIT Portal resources at the request of the Resource Owners.	
	Resource Owners	Users serving in Data Owner, Web-Based-Service Owner, or Initiative Owner roles must have user accounts requiring authentication, and be authorized to create, read, update, and delete only those resources for which they are the owner.	
	Resource - Public Consumer	The GIT Portal must support an anonymous resource consumer role who is not required to register as a GIT Portal User and is not required to disclose any Personally Identifiable Information	
	- Authenticated	A Resource Consumer who is required to register, and be authenticated with the GIT Portal, due to conditions of resource license requirements. The GIT Portal must be capable of managing access control lists for a given Portal Resource. That is, a list (or group) of Authenticated Resource Consumers can be assigned access to a given GIT Resource.	
	Public Feedback Provider (Every Actor)	A GIS Portal user who submits feedback and is required to disclose Personally Identifiable Information for later contact.	

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9.2. Non-Functional Features

This section describes both System Wide (apply across all Use Cases and Scenarios) and Scenario Specific 'Non-Functional' Features of the GIT Portal Logical Design

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System Wide Non-Functional Features (NFF'S)

(These may be overridden by Scenario Specific NFF's listed in next section)

1. Web Browser

Compatibility: (Minimum or newer version)

- Internet Explorer 6.0 (Windows and Macintosh)
- Netscape 6.0 (Windows and Macintosh)
- Test for others and alert that site is optimized for IE and Netscape

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Portability / Usability:

334 335 Enable common browser shortcuts (cut, copy, paste) where applicable
Use screen technology that does not collide with 'pop-up' blockers whenever

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• Suggested screen resolution 1024x768

possible - 'IFrames' like

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- 2. **Responsiveness:** Response time between user command input to browser and system response.
- 340 system response 341 Target r
 - Target provides confirmation dialog and/or next screen/page within 3 seconds

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 For operations taking longer than 3 seconds a progress or "busy" or "working" cursor should be provided

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3. **Availability:** Availability is the amount of time the portal is "up"

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Target system uptime is 99.0% (excluding scheduled maintenance down time)

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4. **Connectivity:** Client Guidelines to support full portal functionality Hardware & O/S

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- Computer with 256 MB memory
- Large hard disk (at least 10 GB of free hard disk)
- Windows (98, NT, XP, or 200x), a CD-ROM drive, a printer and a connection to the Internet.
- If buying a new computer, recommend a MINUMUM of 512 MB of memory, and a 60 GB hard disk

Network

• High-speed broadband connection (cable, DSL, etc) to support map viewing

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5. **Compliance:** System design and implementation will support these compliance objectives

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Proposed solution is be based on Open GIS Consortium Framework (OGC 03-040)

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Proposed solution supports ISB GIT Technical Standards
 Proposed solution supports ISB GIT Enterprise Architecture

6. Notification / Confirmation

- Primary actors receive an automated confirmation (email) of an action when they provide or request information
- 7. **Provide Feedback -** Provide access to feedback function from any web page
- 8. **Usage Tracking** Provide the ability to track portal usage is a requirement for the portal.

Use Case or Scenario Specific Non-Functional Requirements

These NFF's are specific to a use case or scenario and may over-ride a System Wide NFF

- 1. **Search** (Information Currency): always display 'time period of content' of metadata record when viewing resource metadata (both summary record and full record)
- 2. *Harvesting* System checks Peer Portal links to ensure validity on a scheduled maintenance basis
- 3. **View Map** Supporting Data Map browser provides access to standard background layers such as PLS (Public Land Survey), hydro, transportation, ortho photos, etc.

4. Download Data

- Compression Format standard WinZip format
- Special FTP Security -http://techmall.dis.wa.gov/services/secure_file_transfer.aspx
- **Special Responsiveness** Data extracted by background process and email notification is available within 1 business day.
- True URLs are masked from the user.
- **Downloads** produced from background processes cannot be downloaded by anyone but the user who performed the extract.
- File System Maintenance system automatically removes user extracted datasets from file system 3 business days after they are created.

5. Maintain Portal

- **Special Access** Portal maintenance console is available during normal operating hours from remote access locations through a secure connection.
- **Special Security** The portal provides a secure connection between the administrator and the portal console that conforms to ISB Information Technology Security Standards (Policy No: 401-S2).
- Active System Monitoring system provides auto notification to administrator if there is a problem with Portal
- Publish Maintenance schedule scheduled system down times for maintenance

415 9.3. Portal Business Rules 416 GIT Portal Business Rules - Business rules set expectations about portal business processes 417 and operations. This section addresses three categories of business rule requirements: 418 Scenario Specific, Portal Governance and Portal Management. 419 Scenario Specific Business Rules 420 Business Rules address business decision response time and responsibility expectations 421 422 1. Administrate Portal: Define and Publish Maintenance Times 423 424 2. Nominate Portal Additions: Timely reviews (2 business day make contact and 425 establish target decision time frame) 426 427 3. Provide Feedback: If response is requested, it is provided within 2 working days 428 429 4. **Administrator** responsible for installs of: 430 updates/upgrades underlying Portal Software 431 underlying Portal Hardware 432 433 **GIT Portal Governance – Portal Steering Committee** 434 1. Role: Provide governance and general operational guidance for portal 435 436 2. Responsibilities: Manage and conduct the enterprise portal business processes 437 listed below (GIT Portal Management) that directly related to Data Management, 438 Infrastructure and Business Agreements. 439 440 3. **Membership** – representatives from Resource Owners, Resource Users, Portal 441 host and ISB/GIT 442 443 4. Reports to: ISB/Geographic Information Technology Committee 444 445 **GIT Portal Management** 446 The following GIT Conceptual Architecture business processes are directly associated 447 with GIT Portal Operations. 448

processes that are directly related to GIT Portal operations.

1. GIT Data Management: There are three Conceptual Architecture Data Management

GIT Portal Business Processes – (from the GIT Conceptual Architecture Business Process)

Identify and Vet Spatial Data Stewards - Identify data
 Stewards and their responsibilities
 An initial steering committee task

449 450 GIT Portal Management (continued) 2. **Sensitive and Secure Data Management -** Define Must protect data where mechanism for designating and managing access to appropriate and support selected spatial data themes or attributes access (RCW 42.17) 3. **Metadata** – Set and monitor standards for metadata to Portal Discovery and ensure periodic update (process builds on existing state Access ISB/GIT metadata standards) standard 451 2. GIT Infrastructure Management: Describes the business processes associated with managing enterprise GIT shared infrastructure. There are two processes directly related to the GIT Portal. 1. **Process To Manage Portal -** Design, develop, maintain Portal Governance - GIT and operate portal (Set standards and procedures for EA Documenter Team and operating portal) Steering Committee 2. **Web Services Management** – Set and monitor technical Supports a key access standards for data and applications Includes: strategy for GIT Portal 452 3. Portal Business Agreements - describes the business functions and processes associated with managing enterprise GIT business agreements for data sharing, application interfaces and enterprise licensing. Two of these are directly related to GIT Portal operations. 1. Data, Web and Application Services Interface Portal related **Agreements - Develop interface agreement templates for** Tier One components Portal related 2. Implement and Monitor Tier One Interface Agreements - Implement and monitor interface agreements for Tier One components. (Data, Web services, applications, systems, etc.) 453

End of draft GIT Portal Logical Design document

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